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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/773,755

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Jon W. Lai

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EXAMINER

KEMMERLE III, RUSSELL J

ART UNIT

PAPER NUMBER

1791

NOTIFICATION DATE

DELIVERY MODE

03/20/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-INBOX@AKACHANLAW.COM

<b>Office Action Summary</b>	<b>Application No.</b> 10/773,755	<b>Applicant(s)</b> LAI ET AL.	
	<b>Examiner</b> RUSSELL J. KEMMERLE III	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 21-25 and 31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-25, 31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 October 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

In view of the Pre-Appeal Brief Request for Review filed on 11 February 2008, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Steven P. Griffin/  
Supervisory Patent Examiner, Art Unit 1791.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 21-25 and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear what the applicant intends their invention to be as the preamble reads that it is a “method for producing an apparatus” while the final two lines recite a method of using such an apparatus (defining how the fluid enters the chamber during use). It is thus unclear what is intended to be covered by the current claims.

***Claim Rejections - 35 USC § 102/103***

Claims 21-24 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Beshoory (US Patent 4,763,536).

Beshoory discloses a furnace tube, which includes fluid inlet and outlet means positioned on the same end of the tube (see Fig. 2). Beshoory discloses a tube having a fluid inlet **43** which is connected to a coil portion **45** (i.e., a conduit) which leads to a diffuser **46** where the fluid is released into the tube, generally to interact with a sample placed therein, the fluid is then removed from the tube through a fluid outlet **44** (Col 2 lines 43-47). It should be noted from Fig. 2 that fluid inlet **43** and fluid outlet **44** are both on the same side of the tube.

Beshoory discloses that an input fluid (such as the reaction gas) enter only through the fluid inlet **43** (that is, the first or third opening). Any gas (such as an inert gas) which enters through other holes (such as the apertures **33**) is a fluid separate from the input fluid. Further, Beshoory does not require the use of any gas other than

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the input fluid, and in such cases no fluid would enter the chamber except through fluid inlet **43**.

In the alternative, while Beshoory discloses additional openings in the tube (apertures **33**), they are needed only for flowing a purging gas through the tube in situations where a volatile gas is used or created during the heat treatment (Col 2 lines 56-66). Thus it would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, that when such a purge was not necessary that the fluid only enter the interior chamber through the fluid inlet **43**.

Referring to claim 22, Beshoory further discloses that the fluid flow be a gas flow through the tube (Col 2 lines 43-50).

Referring to claim 24, Beshoory further discloses that the outer tube (i.e., the housing) can be made of quartz or other suitable materials (Col 2 lines 2-5).

Thus, Beshoory discloses, or reasonably suggests, every limitation of claims 21-24, and thus anticipates the claims.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beshoory in view of the admitted prior art.

Beshoory is relied upon as discussed above, but does not discuss what material the coil portion be made of (specifically does not mention that it be quartz), or that the coil portion be quartz welded to the quartz outer tube.

While Beshoory does not specifically disclose a material to be used for the coil portion, he does disclose that many other parts of the assembly are made from quartz including the outer tube (Col 2 lines 2-5) and the diffuser at the end of the coil portion

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(Col 2 lines 51-52). It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, that the coil portion be made of the same quartz material as the outer tube and the diffuser since that would reduce the amount of different materials in the system, and thus make it easier to ensure that the container is inert to the fluid being introduced and would not react with it.

While Beshoory does not say that the coil portion be attached to the outer tube by quartz welding, as applicant points out, such a process is known in the art as a method of joining two quartz pieces together (applicant's specification, pages 18-19, paragraph 43). It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have used quartz welding to join the quartz coil portion to the quartz outer tube as a well known and understood method of attaching two pieces of quartz material.

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beshoory in view of Johnson (US Patent 3,373,598).

Beshoory is relied upon as discussed above, but does not teach that the second end of the housing have no openings.

Johnson discloses a thermal gravimetric analyzer which includes a housing for holding a sample and measurement system, the housing adapted to at least partially be inserted into a furnace, and a fluid to flow through the housing (Figs 1 and 2, Col 2 line 49 – Col 3 line 30). Referring to Fig 2, Johnson discloses that the gas flow from an inlet **28** through the housing to an outlet **29** located on an end of the housing. As shown in

Fig 2, Johnson discloses a housing where no openings are provided on the end of the housing containing the weighing system (by the reference number **18** in Fig 2).

It would have been obvious to one of ordinary skill in the art, at the time of invention by the applicant, to have modified the system taught by Beshoory by including a fully closed (i.e., no openings) housing over the weighing system as taught by Johnson. This would have been obvious because by enclosing the weighing system as taught by Johnson no outside changes in pressure could result in changing the measurement of the sample being taken by the system of Beshoory.

### ***Response to Arguments***

Applicant's arguments filed as part of the Pre-Appeal Brief Request for Review have been fully considered but they are not persuasive.

Applicant first argues with respect to claim 21 that Beshoory does not show or suggest a housing where "input fluid enters the interior chamber only through at least one of the first or third opening". This limitation is expressly addressed above in the rejection of claim 21 under 35 USC 102/103.

Applicant next argues with respect to claims 21 and 31 that the apertures **33** in Beshoory are not optional, but required.

Claim 21 does not preclude such apertures from being in the reference as there is no limitation stating they are not present. The limitations of claim 21 are met or made obvious by Beshoory as discussed above.

With respect to claim 31, this argument is considered moot in view of the new ground of rejection set forth above.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RUSSELL J. KEMMERLE III whose telephone number is (571)272-6509. The examiner can normally be reached on Monday through Thursday, 7:00-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven P. Griffin/  
Supervisory Patent Examiner, Art  
Unit 1791

/R. J. K./  
Examiner, Art Unit 1791